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**BIOMEDICAL WASTE  
MANAGEMENT STRATEGY**

**PUBLIC CONSULTATION SUMMARY**

**DECEMBER 1992**



Ontario

**Environment  
Environnement**

25/11/92



ISBN 0-7778-0413-1

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PIBS 2206





## Table of Contents

	<u>Page</u>
Executive Summary	1
Table 1	5
Summary Sheets on Key Issues:	
General Support of Proposed Strategy	6
Concept of Regional Facilities	7
Size of Regions - Number/Siting of Facilities	8
Regional Facility Ownership	9
Regional Planning Committees - Terms of Reference	10
Regional Planning Committee Membership	11
Shut Down of Existing Incinerators	13
Timing of Implementation	14
Economics/Costs	15
Approvals Process	16
Public Consultation	17
Technologies	18
3R's	20
Education	21
Transportation	22
Legal Issues	23





## EXECUTIVE SUMMARY

*A Strategy for the Development of New Biomedical Waste Management Facilities in Ontario* (the strategy) was released jointly by the Ministry of the Environment (MOE) and the Ministry of Health (MOH) in cooperation with the Ontario Hospital Association (OHA) on June 3, 1992, for a 60-day public consultation. The strategy proposed that Ontario become self-sufficient in the management of biomedical waste by establishing regional biomedical waste management facilities that would incorporate the use of incineration and non-incineration technologies. The strategy proposed that regional planning committees would be formed in each of the six MOH planning regions and would be responsible for preparing plans for the development of biomedical waste management facilities in their region.

A total of seven Ontario-wide consultation meetings were chaired by MOE, MOH, and OHA at which hospitals and other biomedical waste generators could ask questions, comment and obtain information on the strategy. Approximately 250 individuals attended the seven consultation meetings. In addition to these meetings, a number of other meetings were held with private sector companies and interested groups.

The public consultation period formally ended August 4, 1992. Written comments were accepted up until August 31, 1992. In total, 181 written comments were received (see Table 1, page 5). All submissions were acknowledged and reviewed by MOE staff. A number of key issues were repeatedly raised during the public consultation period. A summary sheet has been prepared for each of these issues which describes the nature and frequency of comments. These summary sheets form the basis of this report.

Generally, the respondents expressed that there was a need for a strategy to manage Ontario's biomedical waste and the MOE, MOH and OHA were commended for providing leadership and direction to hospitals, other health care facilities and biomedical waste generators in Ontario.

In summary, 32 respondents supported the proposed strategy in its entirety; 30 comments supported the phase-out of existing biomedical waste incinerators; 22 respondents concurred with the need for regional biomedical waste management facilities; 15 comments agreed with the proposed terms of reference for the regional planning committees; 9 submissions supported the principle of self-sufficiency; 6 respondents agreed with the proposed approvals process; and, 2 comments specifically mentioned that the proposed timing for implementation was adequate.

As indicated, 32 respondents wrote that they supported the strategy and its components and provided no further comment. These 32 comments were included in each of the issue sheets where relevant. For example, although only six respondents specifically commented on their support of the proposed approvals process, it was assumed that the 32 respondents providing overall support of the strategy were also in support of the proposed approvals process. Another example of these respondents being taken into consideration is on the "public consultation" issue sheet. Although there were no comments specifically indicating that the public consultation program proposed in the strategy was adequate, the 32 general support comments were assumed to be in support of this component.

As mentioned above, 30 comments specifically indicated their support of the phase-out of existing biomedical waste incinerators lacking the best available air pollution controls. A large majority of these respondents (25) also agreed that some incineration was still necessary,

especially for anatomical, pharmaceutical and some microbiological wastes. Some concern (8 comments) was expressed regarding the timing of the proposed phase-out of the existing incinerators. They urged that the phase-out of incinerators be planned in accordance with the establishment of the new regional biomedical waste management facilities.

An additional 22 respondents specifically mentioned their support of the concept of regional biomedical waste management facilities. A small number of respondents (2) were completely against regional facilities. There were no comments opposed to the concept of regional planning committees. All of those who specifically commented on the terms of reference for the regional planning committees (28 comments) either provided outright support of the proposed terms (15 comments) or made suggestions for revisions of the terms of reference (13 comments). An additional number of respondents (21) volunteered to be a member of the regional planning committee for their region.

Additional concerns about other components of the strategy were raised. These concerns focused on whether six regional facilities were actually needed in Ontario, the timing of implementation of the strategy, the proposed public consultation process, and the education of health care workers and other biomedical waste generators.

In the strategy it was proposed that regional planning committees be formed in each of the six MOH regions to develop plans for biomedical waste management facilities. A number of comments (19) indicated that six facilities were not warranted given the small quantities of biomedical waste generated in some regions. There were also comments (10) indicating that the Central East Region (including the Greater Metropolitan Toronto Area) was too large and should be subdivided into two separate planning regions.

The timing for implementation of the strategy was also raised as a concern. A number of comments (12) indicated that one year was not enough time to adequately plan for regional biomedical waste management facilities. Other comments (8) indicated that the planning process should be fast-tracked and be planned within one year.

The strategy's proposed public consultation program was met with some criticism from those who specifically commented on this issue. It was stated by 13 respondents that two public meetings were not adequate and that the public should be more involved in the planning process.

Ten comments stressed the need for extensive planning of education programs for generators, health care personnel and waste management personnel by the MOE, MOH and OHA.

Each of the issues raised during the public consultation period on the strategy is now under review by an MOE/MOH/OHA working group. A final strategy will be prepared for approval and implementation.

For anyone who wishes to review all the comments received during this public consultation, arrangements can be made to view the submissions on-site at the Ministry of the Environment's Waste Management Branch by contacting staff of the Special Waste Policy and Programs Unit at (416) 323-5200.



TABLE 1

BIOMEDICAL WASTE MANAGEMENT STRATEGY  
PUBLIC CONSULTATION - JUNE 3 TO AUGUST 31, 1992  
(NUMBER OF WRITTEN COMMENTS)

MOH REGION	HOSPITALS	MEDICAL OFFICERS OF HEALTH/HEALTH UNITS	MUNICIPAL AGENCIES	CITIZENS/ ENVIRON- MENTAL GROUPS	PRIVATE SECTOR COMPANIES	OTHER	TOTAL
Southwest	11	7	11	3	1	2	35
Central West	18	1	1	0	0	2	22
Central East: GTA Non-GTA	9 4	1 1	4 8	2 2	0 0	3 2	19 17
Eastern	12	3	6	0	2	3	26
Northeast	4	3	1	0	0	1	9
Northwest	7	0	0	0	0	0	7
Associations/Groups & Private Sector with Province-wide Interests: Association Private Sector Other	-	-	-	-	15	Assoc 12 Other 4	31
Government Agencies: Provincial Federal	-	-	-	-	-	Prov. 12 Fed. 3	15
TOTAL	65	16	31	7	18	44	181



**SUMMARY SHEETS**

**ON**

**KEY ISSUES**





## **ISSUE: General Support of Proposed Strategy and Opinions on the Self-Sufficiency Principle (Lack of Export to Other Regions)**

### **COMMENTS:**

1. 32 out of a total 181 comments stated overall support of the proposed strategy and intent of the initiative and provided no further comments.
2. An additional 9 comments specifically stated their support of the self-sufficiency principle. (1 out of these 9 comments suggested that in order to mandate self-sufficiency a regulation banning export to other jurisdictions must be passed.)
3. 1 comment stated that the term "self-sufficiency" should be clearly defined in the strategy.
4. 1 comment indicated that self-sufficiency may not necessarily be cost-effective in all regions of Ontario, especially border communities where export to other jurisdictions may be more cost-effective.

## **ISSUE: Concept of Regional Facilities**

### **COMMENTS:**

1. In addition to the 32 comments that stated overall support of all the components of the strategy, an additional 22 comments specifically mentioned their support of the concept of regional biomedical waste management facilities. (One of these comments suggested that the facilities should be multi-purpose and serve as collection points for recyclables as well as other wastes generated from health care facilities).
2. An additional 7 comments did not support the concept of regional biomedical waste management facilities as proposed in the strategy for the following reasons:
  - larger volume generators (such as teaching hospitals) should be permitted to treat on-site to reduce the volume and associated risks of biomedical wastes being transported on public roads;
  - one region should be selected as a pilot study and undergo a three-year trial period prior to establishing the remaining regional biomedical waste management facilities across the province;
  - existing biomedical waste management facilities could be upgraded and retrofitted at a lesser cost than building and operating new regional facilities;
  - the establishment of regional biomedical waste management facilities will result in greater public health risks than on-site treatment of biomedical waste will; and,
  - a total system for Ontario should be established prior to breaking down into the pertinent regions (look at the whole before deciding on the parts).
3. One comment requested that "regional facility" be more clearly defined.

## ISSUE: Size of Regions - Number/Siting of Facilities

### COMMENTS:

1. 10 comments from respondents in the Central East region indicated that the Central East planning region was too large and needed to be sub-divided into 2-3 separate regions: downtown GTA, west side of Toronto and east side of Toronto.
2. 3 comments from respondents in Northern Ontario indicated that the Northeast and Northwest planning regions were too vast and recommended a sub-committee structure be developed for these regions.
3. 19 comments were in agreement that 6 regional biomedical waste management facilities may not be warranted given the small quantities of waste generated in some regions. It was suggested that less than 6 facilities would be required for the province.
4. One private sector company proposed to enter into an agreement with the province to operate one incinerator for the entire province for the portion of the biomedical waste stream that requires incineration.
5. One hospital proposed that an existing energy-from-waste (EFW) facility be retrofitted to act as a regional biomedical waste management facility or the incinerator for the whole province.
6. One respondent commented that, with respect to animal waste, the size of the regional facility (incinerator) must have the capacity to handle animal disease outbreaks at which time there is a great volume of waste requiring incineration (eg. the need to dispose of a whole herd of large animals).
7. There was one suggestion that the regional incinerator(s) be sited at landfill sites currently producing methane gas where gas could be utilized as a fuel for the incinerator(s).
8. The number and size of facilities per region should be the decision of the planning committee.
9. Size of regions / regional boundaries should be determined by quantities and volumes generated as opposed to use of administrative regions.
10. A few hospitals throughout Ontario volunteered to act as a regional facility.

## **ISSUE: Regional Facility Ownership**

### **COMMENTS:**

1. 13 comments were received regarding the ownership of the regional biomedical waste management facilities.
2. 8 of these comments supported private ownership of facilities for reasons of cost-effectiveness to the taxpayer.
3. 5 comments supported non-profit or public/private joint ownership of the facilities.
4. A private sector company expressed a willingness to invest in biomedical waste management facilities developed under the strategy.



## **ISSUE: Regional Planning Committees - Terms of Reference**

### **COMMENTS:**

1. 28 comments specifically addressed this issue.
2. 15 out of these 28 comments, in addition to the 32 comments that stated overall support of all the components of the strategy, provided outright support of the terms of reference.
3. The remaining 13 comments made various recommendations as follows:
  - include the management of biomedical wastes from home care activities;
  - specify guidelines to be used for hiring consultants (especially with respect to conflict of interest);
  - incorporate a mechanism for information flow between committees and make provisions for the committees to combine their plans;
  - clarify the MOE position with respect to a possible decision by the committee to opt for incineration for all components of the biomedical waste stream;
  - mandate non-incineration to greatest extent possible;
  - work force impact analysis should include non-hospital and private sector which will be affected by the implementation of the plan in each region;
  - maintain flexibility so that committees may develop creative and innovative solutions;
  - the terms of reference for planning committees should be developed solely by the committee in consultation with municipalities;
  - initially appoint chairman of the committees and allow the 6 chairmen to develop the terms of reference for the committees;
  - in regions where facilities and services are extremely limited an interim plan should be developed and implemented prior to developing regional plans;
  - the planning should be two-staged: initially develop plan for non-incineration technologies for non-anatomical waste; and, proceed with plan for the development of regional incinerator; and,
  - do not allow the planning committee to be a decision-making body; all plans to be submitted to a provincial steering committee (MOE, MOH, OHA, neutral technical & financial advisors, other government agencies) for decision-making.

## ISSUE: Regional Planning Committee Membership

### COMMENTS:

1. 60 comments were received on this issue.
2. 21 of these respondents expressed an interest in participating on the regional planning committees in their regions but offered no comment on the structure of the committees.
3. The remaining 39 respondents provided some general comments regarding the committees as follows:
  - 9 comments from both public and private stakeholders recommend that private sector waste management companies sit on the planning committee or some mechanism be implemented for a private stakeholder sub-committee to be formed which can actively input to the planning process;
  - 7 comments were opposed to having the committees chaired by hospitals or any directly affected stakeholder; committee chair should be neutral in interest;
  - committee members must be experienced in biomedical waste management, have background and good technical knowledge and understanding of the issues;
  - committee size should be kept to a minimum to ensure effectiveness and efficiency;
  - clarify role of the MOE, MOH and OHA on the committees;
  - hospital representation should reflect the number and composition of hospitals in the region;
  - when sites are selected, two members from the local ratepayers groups should be put onto the committee;
  - consideration should be given to inter-hospital waste management committees already in existence; and,
  - MOE Environmental Assessment Branch staff representative should sit on each committee to ensure adherence to the principles of environmental planning.

4. Suggestions were also received on the composition of the planning committee:
- no more than 8 members, include financial and technical experts;
  - municipal land use staff, MOE, MOH, environmental planners, public health planners, potential host communities, hospitals;
  - majority of membership to be non-hospital community representatives, non-hospital chair, no private sector, hospitals only to advise committees;
  - neutral chair, microbiologist, small waste generator, project managers;
  - OMA, OVMA, CHES (Ont. Chapter), CHICA (Ont. Chap.), OHA, AMO, OAML, OTA, 2 public;
  - committee should have microbiologist, infection control and a community health physician;
  - reps from: agriculture, environment, local government, hospitals, citizens' groups;
  - district health council, hospital administrator, occupational health & safety personnel, infection control, county planners, landfill owners, reps from biomedical waste transportation companies, grassroots environmental personnel; and,
  - medical research facility, vet, funeral director, hospitals, municipal staff.

## ISSUE: Shut Down of Existing Incinerators

### COMMENTS:

1. 38 comments were received regarding incineration and the shut down of existing incinerators.
2. 30 out of these 38 comments supported the shut down of existing incinerators when the regional biomedical waste management facilities are established.
3. There is a need to clarify whether incinerators that choose to upgrade before the strategy is implemented, would be allowed to continue to operate.
4. Some comments indicated that the export of biomedical waste is more desirable than allow existing facilities to continue to operate.
5. Legislation should be drafted immediately to prohibit the incineration of non-biomedical hospital waste in existing facilities.
6. A date for the final phase-out of existing incinerators should be specified in a regulation to encourage expediency in the planning process.
7. Strategy paper contains an inconsistency. Reference to "best available pollution control" as well as "incinerators with no air pollution control", need to clarify intent.
8. The plans should pay attention to safety factors and costs of decommissioning in determining the timing of the ultimate phase-out.



## **ISSUE: Timing of Implementation**

### **COMMENTS:**

1. 22 comments were received on this issue.
2. 12 of these comments indicated that 1 year was not enough time for the regional committees to properly plan biomedical waste facilities. These comments were typically from large generators, municipalities, and equipment manufacturers.
3. 8 out of the 22 comments indicated that the process should be fast-tracked and that the committees should be given less than 1 year to establish a plan. These comments were voiced from citizens' groups who were concerned with the timing of the shut down of incinerators in relation to the establishment of the regional biomedical waste management facilities.
4. The 2 remaining comments in addition to the 32 comments that offered overall support of all components of the strategy, believe that 1 year is a good time frame to work within.

## ISSUE: Economics/Costs

### COMMENTS:

1. 27 comments were received on this issue.
2. 20 of these comments expressed concern with how the associated costs (eg. capital, operating, storage, transportation, disposal) of implementing the strategy would be covered.
3. The other 7 respondents made the following comments:
  - "cost-effectiveness" should be clearly defined in technical/financial terms to the planning committees; provide actual criteria for cost-effectiveness;
  - cost-effectiveness should not take priority over environmental quality and preservation;
  - cost-effectiveness should be assessed for the overall total strategy rather than on a regional basis;
  - MOH should fund non-incineration technologies for hospitals; and,
  - costs/billings from private sector facilities developed under the strategy should be regulated/controlled by MOH as monopolies may exist.

## **ISSUE: Approvals Process**

### **COMMENTS:**

1. 16 comments directly addressed the approvals process proposed.
2. 6 of the 16 comments, in addition to the 32 comments offering overall support of the components of the strategy, supported the approvals process proposed.
3. 8 of the 16 comments recommended the requirement for approvals under the EAA regardless of the details of the planning process. Rationale for EAA is to ensure that all viable technologies are examined thoroughly by the planning committee.
4. One other comment recommended a class EA be undertaken by MOE/MOH/OHA to determine the need for new facilities and Part V Approvals for the local facilities at the completion of the Class EA.
5. Another comment expressed that the approvals process be identical for public or private facilities.

## **ISSUE: Public Consultation Program During Regional Planning Process**

### **COMMENTS:**

1. 17 comments specifically addressed the need for public consultation during the regional planning process.
2. 13 of these comments indicated that the public consultation program proposed in the strategy was not adequate and made the following suggestions:
  - since the regions are very large and public interest will probably not be aroused until the siting of the facilities, there should be at least 4 meetings, 2 of which should take place after the potential sites have been chosen;
  - 2 public meetings should be chaired by the planning committee in each of the counties in the planning region; and,
  - a public liaison committee of interested parties should be set up in each region and the chairman of this committee should sit on the regional planning committee.
3. The 4 remaining comments indicated:
  - concurrence with the need for a public consultation program, but offered no further comment on the number of meetings to be held;
  - they agreed that one of the public meetings should be held early on in the process; and,
  - they were opposed to any public consultation at all because it would slow the process down.

## ISSUE: Technologies

### COMMENTS:

#### 1. Incinerators:

- 38 comments were received on incineration;
- 25 comments agreed that some incineration was required, especially of anatomical, pharmaceutical and some microbiological wastes as proposed in the discussion paper;
- 5 comments were opposed to any incineration;
- arguments were presented with respect to the cost-effectiveness of incineration of the entire biomedical waste stream; and,
- some comments requested scientific rationale for minimizing the role of incineration of biomedical wastes.

#### 2. Chemical Hammermill:

- 15 comments were received on this issue;
- 13 comments expressed concerns with respect to the use of chlorine as a disinfectant in the chemical hammermill process; municipal agencies commonly don't support chemical hammermill technology for this reason;
- concerns with respect to the implementation of this technology at a regional facility and the treatment of wastes from funeral establishments; concerns with chemical reaction of the chlorine and formaldehyde commonly found in funeral establishments' biomedical waste; and,
- the remaining 2 respondents were in support of the hammermill technology.

#### 3. Autoclaves:

- 10 comments were received regarding autoclave technology;
- 2 comments had concerns with respect to occupational health & safety issues relating to the operation of autoclave technologies;
- 5 comments supported the implementation of the autoclave technology in



- Ontario in both on-site and regional applications;
- 1 comment expressed concern with respect to the incomplete sterilization and the need for MOE to provide clear operating and performance criteria; and,
- 2 comments were concerned with the acceptability of autoclaved waste at landfills.

4. Microwaves and Macrowaves:

- 5 comments were received on these technologies;
- 1 comment regarding microwaves indicated that tests have shown that spores in needles are not destroyed or significantly reduced as the microwaves do not penetrate metal;
- 3 comments were concerned with respect to the need to address occupational health and safety considerations in evaluating alternative non-incineration technologies; and,
- 1 comment was opposed to this type of technology.

5. Other:

- 17 comments were received addressing alternate technologies in general;
- 4 comments were received from owners and proprietors of new technologies not mentioned in the public discussion document; criticism of technologies being examined for implementation;
- 1 comment requested a definition of "non-incineration";
- 2 comments supported energy-from-waste facilities; and,
- 10 comments supported any cost-efficient alternative to incineration for non-anatomical wastes.

## **ISSUE: 3R's**

### **COMMENTS:**

1. 16 comments made general statements expressing overall support of the concept of 3R's of non-biomedical health care wastes.
2. 3 comments proposed the expansion of the biomedical waste strategy to incorporate 3R's in health care facilities as part of the strategy. Many arguments that 3R's and biomedical waste management intimately linked in health care and should not be divided into 2 initiatives.

## **ISSUE: Education**

### **COMMENTS:**

1. 10 comments were received that stressed the need for the implementation of immediate educational programs for generators and health care personnel with respect to the proposed definition of biomedical waste.
2. Recommendations that MOE / MOH and OHA play a key role with respect to education and training.

## **ISSUE: Transportation**

### **COMMENTS:**

1. 15 comments were received on this issue.
2. 4 comments expressed the need for a transportation infrastructure and suggested that municipalities should become involved in the development of depots or drop-off locations for low volume biomedical waste generators.
3. 4 concerns were expressed regarding the increased volumes of biomedical waste which will be transported on the public roads system and the associated public health risks from potential spills.
4. 2 recommendations were made to upgrade present transportation standards and ensure enforceability.
5. 2 others commented that present transportation standards were adequate.
6. 2 comments indicated that transportation should be minimized through the use of on-site technologies in large facilities and the implementation of 3R'S programs.
7. A trucking association wishes input to new policies / standards as the impact on the domestic trucking industry could be significant.

## **ISSUE: Legal Issues**

### **COMMENTS:**

1. 5 comments were received regarding this issue.
2. Concerns were expressed with respect to the legal liability associated with the classification/segregation of biomedical waste under the proposed definition.
3. Concerns were also expressed with respect to the legal liabilities of the members of the regional planning committees.
4. Additional concerns were expressed with respect to transportation liabilities.







